NCBN   Technical Steering Committee Meeting   November 3, 2004   Meeting Notes

Follow-Up Items

- Slides / Information Materials
    1. Additions to Timeline table: Network 'report card' and project annual reports
    2. For the 'NCBN: Sample Design' slide – add 'SAV mapping' to the list of 'programs' that have a complete survey

- Phase III / Protocol Reviews
    1. Provide Network/Regional I&M guidance/text for Vital Signs monitoring component of park Strategic Plans
    2. Develop scope of work and hire a 'protocol review coordinator' through one of the CESU schools
    3. Develop review questions and guidelines for distribution to all protocol reviewers – send to Technical Steering Committee for their review
    4. Maybe send out Chapters 3 and 4 to members of the Tech Steering Committee to review?

- Sampling Design – Chapter and Protocols
    1. For the Salt Marsh veg and nekton sample design – consider developing a new element of the design for the selection of index sites. This would entail developing parameters that index marshes must meet, identifying the full universe of possible index sites, and randomly selecting among these sites
    2. Add sampling frequency and sampling time section to Chapter 4, including the sampling schedule of projects relative to each other (the overall temporal distribution of sampling) (Bryan)
    3. suggested language from John Sauer for spatial sampling design: "for some projects, there will be a complete sampling of space, and therefore spatial sampling design is not a problem" (Bryan)

- Estuarine Nutrients
    1. Suggested language for summary questions: "Are there detectable inter-annual trends based on …."
    2. Remove the SAV tissue nitrogen vital sign – "there is no guaranteed and interpretable link with nutrient loading"
    3. Determine whether the 'nutrient sources / agent of change' protocol will include actually running the model or instead just assessing the results of runs of the model done by other sources

- Salt Marsh Protocol Development Summary
    1. Keep objective 2, remove questions 2 and 3, and for question 1 take out 'acute' and add invasive species, tidal restoration, [and other examples of] to the "e.g."list
    2. OR add the following question "how is the proportion (number/abundance) of exotic (or invasive) species in salt marsh vegetation and nekton communities changing over time" with the same 2 vital signs (veg and nekton community)
    3. For Objective 3, Q2 Remove 'pond bottom'

- Geomorphology Protocol Development Summary

1. merge Objectives 2 and 3
2. replace VS 'shoreline change' with 'Shoreline Position'

- Staffing Plan
    1. May want to check the cost estimates against AFSIII
    2. A Gantt chart would help identify tasks with given positions
    3. possible alternatives for the 'proletariat' positions: subject to furlough positions; GS 5/6/7 positions to save money and provide growth opportunity; consider hiring targeted skills via. The specialist series (as opposed to 401 series); could advertise with flexibility of duty station
    4. possible alternatives for the 'middle management' positions: hire one who is a statistician; hire folks who can spend significant time in the field at least in the beginning of project implementation; could advertise with flexibility of duty station
    5. maybe establish a permanent data analysis/statistician steering committee

Present:

Beth Johnson	**Invited – not attending**
Carl Zimmerman	Alan Oconnell
Charles Roman	Glenn Guntenspergen
Hilary Neckles	John Karish
Howard Ginsberg	Mary Foley
John Sauer	Paul Buckley
Michael_Bilecki	Mark Duffy
Nancy Finley	
Chuck Rafkind	
Bryan Milstead	
Sara Stevens	
Marc Albert	

Meeting Goals
1. *For each project, review and approve the proposed monitoring objectives and questions, vital signs and their measures, and the sampling design (for those projects with sampling designs still in development, review the overall approach).*
2. *Discuss and critique the Network's sampling design approach.*
3. *Discuss and critique the Network's proposed program and protocol review process and schedule.*
4. *Discuss and critique the Network's proposed staffing plan.*

Agenda

9:00   Welcome, overview and logistics
        (Goals of the meeting, role of the Committee in the Network)

9:30   The current status and timeline of the Network program and projects - the 'Vital Signs Framework,' the Phase III Report, the Annual Report and Work Plan etc…

9:45   Network sampling design approach

Break

10:45   Estuarine Nutrients project update

11:30   Land Cover Change project update

12:00   Lunch at the Moseby Center Café (short walk from meeting room)

1:00   Coastal Geomorphology project update

1:45   Salt Marsh project update

2:30   Visitor Use and Impacts project update

Break

3:15   Review process and reporting schedule for the Network and the monitoring protocols

3:30   Network staffing plan

4:00   Adjourn – travel safely!

Notes

Speakers identified by initials. CR= Charles Roman; CRaf = Chuck Rafkind   NCBN = Northeast Coastal and Barrier Network; BOD = NCBN Board of Directors; TSC = NCBN Technical Steering Committee; VS= Vital Signs. Notes by Marc Albert

Welcome and Introduction – Program Overview

First TSC meeting since May 2003

CR – maybe we should reduce the committee size since some members have not attended meetings.

BM – I talked with BOD, they suggested that a 'rights and responsibilities of TSC members' document be drawn up, approved by BOD and TSC and then a decision could be made about membership.

Mike B – is there a rule about quorum?
BM – no, charter indicates that those present vote.

BM – Intro to meeting, status, goals.
Approve VS – new format
Get feedback on sampling design approach – no network yet has one approved

Discuss proposed program for protocol and program review
Discuss proposed staffing plan

BJ - there will be an additional 'report card' for the Network, providing a 'score' for the Network by the National I&M Program. There will be a subsequent meeting to determine the format etc…

PHASE III REPORT
The 'draft final' report will be done in Dec 04, but it will only include a partial set of completed draft protocols.

PROTOCOL REVIEW PROCESS

BJ – the Phase III will not be reviewed within the Network/TSC. There will be sequestered group of subject matter experts that will get together to review the report, whereas the protocols will be reviewed by subject matter experts (that we can suggest/assign?)

BM/SS – the Phase III is mostly a redo of Phase II with summary info from the protocols, the protocols are the central park of the report, so how could the report be reviewed separate from the protocols?

BJ – the heart is the overall sampling design, and that can be reviewed without reviewing the protocols. Also the staffing plan e.g. if all the $ is going out to park data managers at parks then it may not look like a Network program. Also, there is not yet a plan for the review of data management plan. One of the problems is that the Phase I and II had such an aggressive timeline that it has burned people out and thus there is a backing off of the initial goal of all protocols being done. E.g. CACO has taken 8 years, and that's an example of a good program.

SS – we are way ahead in database development and some other elements

BM – we're supposed to invest 35% of budget into data mgt. and we have probably invested more, so we've prioritized this. Also we have hired a good technical writer (Gary Ensminger) who is editing and writing for us, so we should be able to develop a tight set of documents.

BJ – when NPS went forward with NR Challenge, they established GPRA goals regarding the selection etc. of VS, that's why we're being pushed to develop things along the original schedule, even if follow-up is needed.

HN – what are the expectations for when the NPS starts putting together these report cards? Is there some ultimate deadline by when they want to see results

BM – the expectation is that protocols will be done by maybe next October. I get a feeling that Office of Mgt. and Budget would like to know why we're not doing it now, they just want to see something that shows us tracking the health of the parks.

BJ – they were going to take money from USGS for protocol dev't away, Steve Fancy had to go to Washington to lobby to make sure that didn't happen.

CR – To summarize the technical review process, there will be 2 levels, right? A WASO group hired out of the CESU in Idaho that will do an overall review of our program, and these reviewers may or may not know about coastal processes, etc. The other level is that each protocol needs to go through rigorous peer review. I suggest that CESUs get involved, maybe hire 1-2 faculty from Universities to coordinate the review of the protocols. The alternative is that the Network staff would coordinate it, which involves finding the reviewers, hounding them etc…

MB – so you're saying we already have agreements with CESUs and it would be easier

BJ – plus it would be a more blind process than having it coordinated by the Network

CR – I can work with you to organize this. We will make sure that reviewers are not affiliated with the protocol writers. e.g. the salt marsh should not be reviewed by someone at URI. Would cost a little bit of money, but not a lot.

BM – one person could be in charge of coordinating this. Could they be responsible to make sure the protocols are revised?

CR – that could be a cooperative process among Network, CESU, TSC.

BM – we paid for Phase II reviews.

HN – the going rate is $500 - $1000

BM – the only problem with paying is that we can only go to academic sources, not USGS or other gov't people

HN – it doesn't mean that, but the government reviewers don't get the honorarium

BJ – we need a list of review questions and guidelines, something that is consistent

CR – that's what the coordinator could do

BM – I'd like the guidelines to be reviewed by the TSC

SS – I'm surprised there's not going to be some national level guidance, since that's where the format and guidance for protocols comes from

GPRA GOALS FOR NEW STRATEGIC PLANS

MB – I'm curious about the next Strategic Plans that parks need to do WRT to the VS component of GPRA.

CZ – there are 2 new goals regarding I&M: (1) identification of VS, and (2) implementation of VS monitoring

MB – I hope there can be consistency among NCBN parks WRT these strategic goals. It would be very helpful to have Network (or regional I&M) guidance for text associated with this. Our deadline is mid-December.

BM – we should be able to write this and send out to the parks

NF – what are the CACO VS, vs. what are the NCBN VS and which do I report? Always a conflict.

BJ – prototypes have always been different, you do your reporting of the Prototype-based VS separately

DEVELOPMENT AND IMPLEMENTATION OF PROTOCOLS

CZ – are you starting to get a sense of costs, and how many of these protocols may be implemented?

BM – hard to say – we'll show the proposed staffing plan. I'd day we can do at least 4 of the 5 projects with our current budget (maybe not visitor impacts). The game is going to change once we're doing implementation, where we'll try to find ways to make the money go further.

CZ – my question is how far we want to go down the road of developing the protocols, since that costs money - E.g. the hydrography, and the visitor impacts.

BM – the idea on the hydrography is 'what would be the amount of information we could gather from existing sources' The visitor impacts may never make it to the forefront. Mostly because it is a program still seeking a mission. We'll be meeting in January with a group of experts - Bob Steidl, John Sauer, Enid Ringer, Chris Monz, Yu-Fai Leung and Jeff Marion. Either way after that meeting we'll be giving this life or laying it to rest this year.

Sampling Design (also see powerpoint slide)
BM - - -
Going through each project and where we're going WRT sampling design.

ESTUARINE NUTRIENTS – ECOSYSTEM INDICATORS

Choices had to be made at CACO and COLO of which estuaries to include – other park estuaries were all included.

Tesselation design – choose certain # of polygons, laid over sample area and random points selected within ea. polygon. Some stations will be 'trend stations' that will not change (will take advantage of existing data stations at ASIS, CACO [there are guidelines as to what could be included as trend stations]), but most will be randomized each year. A compromise between complete random and having continuity

BJ – can inferences be made about estuaries that weren't selected?

HN – no. The sampling universe was decided consciously. At COLO the tidal creeks on Jamestown Is. are the major interest. At CACO Pleasant Bay and (?) were the most significant. Parks could always choose to implement the same method at other sites, or to alter sampling densities within the sample area for areas of relatively more or less interest.

BJ – so can this be rolled up regionally?

HN – yes, but you have to be clear that you can't say anything about the areas that you didn't sample. Left out: CACO - Wellfleet Harbor and Provincetown Harbor, and the whole CACO Bay shoreline, At FIIS there is no sampling on the north side, at COLO not sampling small marshes along Colonial Parkway.

HN – the sample size is a balance of feasibility and getting sufficient size to be confident in results. Also had to make decisions where water bodies are discontinuous e.g. at each of two CACO sample areas there are different size polygons in order to allow for the same sampling density.

JS – how are you going to analyze? Do you treat it as a true simple random sample, or do you have to adjust by probability?

HN – it's a little tricky – it's not stratified but it does need to be adjusted by the estuary size

ESTUARINE NUTRIENTS AGENTS OF CHANGE (also see powerpoint slides)

BM - comprehensive in parks by watershed, so a survey not a sample. Still some decisions that need to be made about the area of influence for each estuary.

GEOMORPHOLOGY

BM – we are doing complete survey of entire beach areas of each park.

LAND COVER CHANGE

BM - doing complete park and some surrounding areas, so again complete survey

SALT MARSH

BM - sites selected by interest. transects laid out systematically (with a random start) then points along transects are selected at random.

CR – at FIIS we decided mainly for logistical reasons where we wanted our sampling locations within the much larger marsh system, (eg. Boat access). Another factor was that we selected sites with different habitat type (based on inlet/overwash conditions) in order to compare the sites. I've rethought it and we should look at the entire FIIS marsh system and divide it up into discrete areas and select the sample sites at random.

HN – you could stratify the sites (to ensure the different habitat types are represented)

JS – or you could use the tessellation design

CR – the down side is you may not be able to get to some sites

HN – for estuarine project we generate a lot of random points, and if you can't get to one you go to the next. You initially selected 'index' marshes. I think for the Network the right approach is to look at the full marsh habitat. The protocol could then be used for index marshes by parks, if they choose.

CZ – to play devil's advocate, isn't that the same as the estuarine project?

HN – yes, but it's a different resource

HG – I think it makes sense to spread a wide net so you can catch the overall changes – if you want a warning system you need a wide net

BM – you would lose the SET monitoring being co-located. Could start the SETs over but a lot of work. Also the SET would need to be permanent not re-randomized. Another question is do you re-randomize (the sample points at selected marshes for each sampling)?

CR – we have spoken with stats guys, and we think we should re-randomize

HG – also, physically going out can alter the marsh, so that argues also for re-randomization

CR – unless the design changes that won't be a problem (every 3 years)

BJ – Couldn't you use the Land Cover Change data to re-select marsh areas?

BM – yes.

CR – I guess I wouldn't change the sites we're sampling, but I would re-randomize within the sites.

HN – then it wouldn't be very robust if you were trying to say something about all of the marsh habitat (at a given park)?

JS – N would be the number of areas, not the number of sub samples. It would be a strong assumption to sample only a couple marshes and say anything (about the whole marsh habitat at a park.)

CR – we need N = 20 to have sufficient power for the vegetation component. Logistically to go to 20 different individual sites may be impossible

HG – couldn't you come up with a balance? Maybe 5 sites along the entire marsh area. You don't have to analyze it as 5 data points. You don't need a significant regression to determine if things are changing (so that could provide the information for management but not the typical full statistical analysis)

MB – from a management standpoint, a Supt. will ask "is something happening in the marshes?" if you say all we can tell you is what's happening at Watch Hill and Hospital Pt. but you can't say what's happening at other sites, the Supt is going to throw up his hands and say "why'd you design it this way?"

CR – I've always looked at this as index sites that can serve as early warning systems for the rest of the habitat, even if you can't say anything statistically about the rest.

MB – OK, that works if the index sites do act as triggers to take a closer look if something comes up

JS – what exactly are you monitoring at those points? If you're monitoring dif't things, you have to think about what is significant change for each item of interest. E.g. structural changes in SM veg. You

have to think about a scale that is of interest – e.g. to look at phragmites invasion in the whole park marsh area, would need much larger area sampled. Or you could stratify to try to answer questions at different scales.

BM – the design has been exhaustively studied in terms of sample size and sample plot distribution for using index marshes (so there is a benefit of staying with what has been tested and reviewed). This design also may provide the most useful information for parks, as opposed to spreading out the same amount of sampling effort across the universe of marshes (at a given park).

CR – the use of index sites also allows you to sample vegetation, fish, and SET all in the same place, and they are all related (so more thorough analysis of changes to these marshes can be done)

BM – we might want to stratify - to look at all possible index sites and randomly select among those, even if we end up with an N of 1

CZ – that eliminates your ability to stratify along environmental gradients

CR – well, for ASIS you could divide the island into 3 sections (with the associated environmental gradient) and choose an index site for each section.

JS – to summarize, CR is suggesting broadly stratifying each park, then selecting index sites within each strata, then re-randomizing sampling points each sampling year. You could instead use polygons to determine the index sites.

BM – I like the idea of coming up with parameters that index marshes must meet, then describe the full universe of possible sites and randomly select within them.

CR – you could use polygons, determine stratifying variable (e.g. tidal range high vs. low) then select randomly a polygon within each.

JS – if you do that do you meet the WASO guidance point #1? (a probabilistic sampling design)

HN – It is still a probabilistic sampling design but at a different scale (the 1 meter plots make inferences about the whole index marsh, rather then randomly selected marshes making inferences about the entire marsh habitat).

WASO Sampling Design Guidance (looking at ppt slide)

(Re: Collocating)
BM - It will be difficult to collocate among projects, but within projects it will be done (e.g. 3 separate salt marsh protocols). Also, the estuaries and salt marshes will be collocated.

(Slide with 'Steve Fancy' recommendations)
(re: the guidance "Permanent plots preferred")
BM - we will explain that we are better off re-randomizing for the salt marsh.

CR – Statisticians say either is fine, the most important thing is to stay consistent. The power analysis was based on randomized samples. Logistically with permanent plots the marshes end up looking

terrible with stakes at each plot. Theoretically we could use GPS, but if the orientation of the quadrat or plot is not the same then that can change the data that will be collected

CZ – I also think about frequency. We haven't talked about temporal variability, just spatial. I would think temporal variance issues could be huge for some projects, e.g. salt marsh nekton.

BM – It is part of individual protocols, but it probably should be added to this chapter.

NF – We've had problems with sampling more frequently than can be handled by staffing.

JS – in the power analysis, in terms of population change the sampling frequency is implicit. suggested language for spatial sampling design: "For some projects there will be complete sampling of space, and therefore no need exists for development of a spatial sampling design"

JS – what do you mean by 'power analysis is routine'

BM – just that power analysis will be done for each protocol. Part of our review process will include a review of the power analysis for each project

JS – the tessellation approach is basically just a way to develop a systematic approach.

HN – yes, as is the current salt marsh design. they could be described - a systematic random approach using tessellation and a systematic random approach using transects and plots.

JS – they are different philosophies statistically, but they end up getting used practically the same way. Tessellation is complicated enough you can use for any stratification, but it is more difficult for analysis.

<<LUNCH>>

Estuarine Nutrients project

Suggested language for PDS "Are there detectable inter-annual trends based on …."

NUTRIENT SOURCES

HN – is the goal to run the loading model, or just to track the results coming from runs of the model. My understanding is that we had agreed with Scott and Luke to test this model against the data from proxies of loading, then the monitoring question would be to track the changes in the proxies, not to run the model and track the changes in the model data.

BM – I would think both. I thought once it was put in protocol format it could be fairly routine to run the model every 10 or 15 years. Doing it by proxy we don't know how that translates into amount of nitrogen

HN – it was way more complicated than Luke expected to simply run this model. So we need to go into discussions with them with 'what have you learned about how easy this would be for us to run this' If we hope to model load on a regular basis, I think they've learned a lot about how feasible this would be.

CZ – the state of MD is gearing up to do a nutrient loading estimate, and it's a very complicated undertaking.

BM – there are groups out there trying to tackle the same thing. We should probably look at this in a harvest mode. The one that caught my attention is the NOAA model where they had data for every estuary. The other question is why are we even approaching this at a Network level – why don't we all (coastal networks) get together and do this on a nat'l level?

CZ – but the coarser this gets the less able we are to use it on a local level. E.g. to talk about Best Mgt. Practices that relate to the water body in question, or to go to the county with info. Other than a gross explanation of biological changes, it may not be useful.

HN – I think it is being done on a local level, but just as part of a larger program

CZ – I'm very interested in how this will look, e.g. I am very concerned about fertilizer inputs

HN – the question is whether that's a monitoring question that can be answered

BM – 2 questions (1) can we do this at a Network level, and (2) is it a reasonable approach to do this by proxies.

CR – I would be cautious to rely on NOAA or EPA data sets because they may not be planning to maintain them over the long term

BM – we may not be best served by going with one particular source, but rather harvesting from multiple sources. Continue to harvest and use it to interpret results.

BJ – so you already have a set of 'index' estuaries that you could do this on? (HN – yes)

MB –is the sample area inside the park boundaries?

HN – it is county-based, from watershed outside park bdry

BM – another question, where are they getting the NADP data?

CZ – it's available for every park, but the question is how reliable the data from non-park sampling locations will be, especially WRT to coastal influences on deposition.

(note GEWA and SAHI and THST are not included in the analysis we're getting back from URI GSO – estuary too small compared to land mass around them)

SUBMERGED AQUATIC VEGETATION

HN – we are dropping the SAV tissue nitrogen vital sign. there still could be good info to be derived, but from our testing there is no guaranteed and interpretable link with the nutrient loading.

BM – the SAV mapping is great. There could be issues with long term reliance on the programs that are currently collecting data. I've talked to the group doing this at FIIS and they claim they are doing this for the long term. It could be iffy based on state funding etc…

BM – overall I think we've made a good investment in this protocol, we have an integrated database, and this protocol will be a model for other networks.

CZ – will these databases be compatible with STORET?

BM – the database has a method to output to STORET

Park Use and Impacts

(general discussion about the project)

BJ – you can't do the one (park use) without the other 2 (soil and vegetation impacts, wildlife disturbance) – that's not what our program should be doing

NF – one of the major points of litigation on a hunting issue is whether hunting creates resource impacts. We've been studying this based on recommendations (but not final protocol) from Jeff Marion, doing GIS mapping of the trails, and 12 days of observations from each trail. It seems the initial trailhead area is created by hunters, but then they fan out, and also many other users also use that same disturbed trailhead area. One challenge was that hunting was never included in the initial scoping list of likely visitor impacts.

MB – I like all 3 vital signs –park use can include encroachment, people going into plover habitat . I'm not sure how you could come up with something that will work for all parks (for all 3)

BM – that's why we came up with park usage as a good starting point. If we had a good idea of who was using the park and how and where and there was an issue then we could focus on the issue area

BJ – if you decide not to do the impacts, your'e just looking at the agent of change but not the other half.

MA – there's no *a priori* reason why we can't look just at the agent of change side of the issue, right?

CR – we want some useful numbers to figure out what is going on where, get a handle on that then go on to the areas that need further monitoring. A phased approach, with the 2nd phase getting at impacts.

NF – what are you going to do with the info? We have info on people going into plover habitat. These are individuals, you can't institute a mgt. practice to stop it. Scientifically documenting that use may not be valuable. On the other hand for any litigation that can be useful. With the ORV work we're doing a social science study, because that gives us a number (of what users tolerate) whereas with the study of resource impacts it is not possible to get a specific target number (of users or of some resource characteristic).

BM – Yes, I like the concept of VERP, but I don't think there's a single VERP working model that is useful. It is a possibility that we will be changing this project or dropping it by the next time we meet.

NF – could habitat alteration be included in the Land Cover Change project? Are we already doing the elements of this project that we can control?

MB –another example of getting info as a component of other projects, e.g. boat waste as part of the water quality project.

BM – that's been discussed. Flushing in the estuaries, and boat scars at FIIS.

JS – the notion is that people using parks influences the resources. A lot of this, like using land cover maps for social trails, could be integrated into other things. The first piece (park use) is the only thing truly unique to this project. Maybe the wildlife interactions, too.

BM – the wildlife component is poorly developed at this point.

CZ – I agree with NF, but it's a little like weather, it contributes to everything. We may not get a discrete mgt. outcome but it provides additional info that could help with a lot. Our visitor counting is pathetic now. I think it would be a good basic parameter to have. I support the idea that we would develop one basic protocol that would provide the basis for different protocols for different parks.

NF – I think you'll find that it is valuable, but each park will be interested in different types of uses.

CRaf – Loyal Mehrhoff's group (Kirsten Leung) in Human Dimensions is doing something parallel to this.

CR – I'd like to come up with something that will allow us to detect and track new uses, e.g. if we had started 15 years ago we could have great info on kayak use. Same with jetskis. I was talking to Jeff Marion, trying to come up with a design where we go to the same place and track what's going on. I think if we do it right it will really help us understand why we're seeing some of the changes.

CZ – I agree, I think it's a driving force

NF – that's what I'm doing now, during summer to track hunting.

JS – making sure that the monitoring is at a scale where it captures the data that is of interest

BJ – which is why you may want to initiate a research project related to impacts, e.g. to salt marshes from kayaks

HG – there aren't hardly any studies looking at impacts to the resources. (until the current beach invertebrates research relating to ORV use) The basic community ecology hadn't been done. Now that has been done, we're starting to know those resources and we can begin to determine the impacts.

MB – this is an important topic.

BJ – the BOD is interested in this project. The Superintendents all want to talk about this.

CR - that's because it is important! we could be leaders in this.

JS – I thought this was looking at humans as stressors. Human ecology monitoring seems to be trying to do this in ways that will provide basic info and also in a way that will link humans to impacts.

CR – I'm glad John will be there (the project workshop in January) because I think you need more than social science / rec ecology folks. I think we should monitor humans in the way we monitor birds or mammals

BM – that's why we're getting both groups together to evaluate this type of work with statistical rigor.

Salt Marsh Monitoring

BM - 3 protocols. Vegetation and nekton protocols come directly from CACO prototype, they are being adapted and formatted for Network park use. The SET protocol is being developed for CACO in a way that is being generalized and formatted for Network use.

SALT MARSH PROTOCOL SUMMARY QUESTIONS (Q) AND OBJECTIVES (O)

JS - Covariants of Q1 are listed under Q3, and the response variables for Q3 are under Q1 –there's an inconsistency there

CR – the ancillary variables (SM water table level and SM soil water salinity) have to be collected, but they are not really vital signs.
Separately, something important to mgrs. Might be the trend in number or abundance of invasive species.

(discussion about the organization of the Questions and Objectives)
Consensus Suggestions :
1) add following question "how is the proportion (number/abundance) of exotic (or invasive) species in salt marsh vegetation and nekton communities changing over time" with same 2 vital signs.
2) Keep objective 2, remove objectives 2 and 3, and for Q1 take out 'acute' and add invasive species, tidal restoration, [and others] to e.g.
3) For Objective 3, Q2 Remove 'pond bottom'

BJ – are we monitoring the 'local rate of sea level rise' ?
CR – using NOAA tide gauges

Geomorphology

BM - Identification of variability in shoreline change by using historical and contemporary data. There are simple and more complex protocols. Simple one will be part of Phase III - GPS of shorelines. The second protocol due next year will include everything else – topography (LIDAR data, harvesting ancillary hydrographic data) and ancillary data.

(?) why still do GPS if LIDAR will provide the same information?

BM - LIDAR scheduled to be flown every 2 years, whereas the GPS is scheduled 2x/year. Also, if some event occurs then the LIDAR people respond to the event and our flights could be bumped.

HG – if someone comes here that has a different method, we shouldn't tell them they can't do it just because it's not part of the protocol.

BM – that's right. (MA note – though we do need to follow approved protocols for the program, we can't just substitute alternative methods to get the same)

(protocol summary discussion)

Suggestion: replace VS 'shoreline change' with 'Shoreline Position'

CZ – how are Objectives 2 and 3 different?

JS – these objectives are more finely divided than other projects

CZ – splitting hairs, anything above the water's edge is one and below is the other – one is just a coastal process thing

Suggestion: merge Objectives 2 and 3

BM – Norb and Jeff have assured us that marine geomporphology and hydrography can be provided from other sources

CR – Objective 4 is dealing with off shore and nearshore processes.

BJ – isn't VS 'marine geomorphology' (underlying geologic framework) an inventory data set not a monitoring data set?

(MA note - Seems to be both – as sediments, shoals etc… do change, but underlying bedrock doesn't.)

CZ – we're getting hung up on the causes, once you get beyond measuring the resources into monitoring the indicators of causes of change to the resources it gets much more complicated

Land Cover Change

BM - Because there are so many networks doing this kind of work we are waiting for national guidance and standards to be developed. Y.Q. is one of the national land cover change committee members, and Y.Q. will be developing ours based on our vegetation mapping and sea grass mapping. We want to identify 15-20 habitat types per park, ensure repeatability, and monitor changes to these.

CZ – when I think of land cover change, I think of threats surrounding parks. I don't understand the focus on habitat types, as these would likely shift but don't seem to be as important.

BM – one of the critiques we faced from the Board of Directors was that we weren't doing anything with any upland types, this is partly in response to that.

CZ – what's the question you're trying to answer? habitat / cover shifts. Land use and land cover has been used for a very specific way for a long time, so I think you're changing that a bit.

BM – what is the distribution of habitat types in each park and how are those changing over time. I think we are going to get new recommendations and it could shift.

CZ – it seems like you've come up with a surrogate for veg maps bc veg maps are too tough to do. That is dif't than the traditional use of 'land cover' where e.g. there wouldn't be any distinction among forest types. Land use could be different within the same land cover type (e.g. open grassland)

BM – it's fine to consider this 'habitat monitoring'. That's just the definition of land cover. I would distinguish this from 'land use' questions, where there is less specificity

JS - This sounds like an attempt to get land cover by taking RS stuff and use it not quite as land cover (CZ – but it's also not quite a veg map). How much of this is developing protocols that could use the widely available coverages (e.g.NLCD) – are these sufficient for getting at what you are trying to answer here?

BM – at national I&M meeting this will be discussed. I think what we are looking for is not available at that resolution.

CZ – unless this is successful at coming up with an automatable system – is it really going to be any easier than just making one more coarse cut at the veg map for doing analyses? I relate to the point, because that's why we acquire aerial photos regularly.

BM – we would like to develop a standard for these things – mean patch size, distance betw/ patches.

MB – FIIS now has a 2-3 year old veg map. We don't have the capability to update – is that what this might do for us?

BM – yes and no. if we have some sort of change detection protocol, then you could concentrate on areas where sig. changes have occurred for updates of veg maps. It's not a replacement for veg mapping, b/c its just too time consuming to update. Don't know the schedule.

JS – maybe there should be a discussion about vegetation map change analyses at the national mtg.

BJ – we have Leslie Sneddon, regional ecologist with National Vegetation Classification (NVC), she met with YQ and Mike Traber (NCBN Remote Sensing experts). They are in fact trying to create 'complexes' out of the NVC, which is one cut removed from Alliance level

CZ – that's my concern – there should be a relationship between these 'habitat types' and the NVC classifications

BM – one of the reasons we wanted to do this at FIIS right away was to have data as near as possible to the veg map. Also, this monitoring will be based on the NVC. They will tell us what classes they can identify (20?), then there will be a determination of which classes are made up of which alliances, etc. They also have a marine and an aquatic classification (e.g. for seagrass) – and Leslie would be happy to work with us on this so we have some standard.

CR – we have to remember that whatever we do it should be in AND AROUND the parks, in the watersheds or whatever, rather than just in the parks.

BJ – this was one of the first things we talked about initially. We wanted something that could be used for retrospective analysis.

BM – also, John Brock's platform now includes multispectral camera, so maybe we will end up moving toward that as the source for this type of analysis.

CZ – in almost every one of these projects, the first vital sign is very easily measurable and straightforward, then once we get to the next level where we're looking at factors influencing the change there is a whole different story. I think these next level vital signs may be fluid depending upon how things go.

MOTION TO APPROVE THE VITAL SIGNS, GIVEN THE SUGGESTED CHANGES ABOVE, IS APPROVED.

Staffing Plan (see powerpoint)

MB - May want to check the cost estimates against AFSIII

CZ – are the base funds going up?

BJ – we should get the same percentage increase that the parks get.

BM – once we have monitoring being implemented, then we have the opportunity for additional funds.

MB – we should probably discuss how parks and network are going to be able to coordinate implementation

CZ – would subject to furlough positions be an option, given the seasonal nature of much of the work (subject to furlough positions have to be off the payroll at least 4 wks/yr, and can be off for longer)?

NF – we did a bunch of term positions in lower graded slots to test things out. We figured that over time as projects change we then can shift from one subject matter expert to the next

MB – I suggest subject to furlough, so you don't get stuck down the road

CZ – I don't see anything that disturbs me (in the staffing plan or the timeline for when funding could hit a wall), parks are mandated to only make sure they are funded 2 years out, so this is better.

NF – are you susceptible to the requirement to demonstrate why we are not outsourcing? I've been told that if you throw 3 out, they will tell you 1 needs to be outsourced. So it can be better to do it incrementally, one per year.

BJ – we've been able to claim our positions as 'NRC – WASO position' so far without a problem.

NF – why not hire GS 5/6/7 ? that saves a little money and then they get the sense of being promoted.

BM – we would be attracting folks with masters or experienced undergrads, so maybe SCEP

CR – important to think about the backgrounds and professional qualifications of the people doing this work. We have the protocols, but I wouldn't want to see briefly trained 5s or 7s. Those folks are going to spend a lot of time in the field.

NF – also may want to think about the series. With 401 series you get a slop of folks, 480 for wildlife, 436(?) botanist. you can end up with intakes, or those with veterans preference (and less targeted skills and experience) - the 9 level is the target range they are looking for.

HN – MJ and Blaine spent a huge amount of time, being available day and night, in the field alot etc… (middle mgt. level), and there's also a benefit in having permanent field staff rather than techs. That would make the work more efficient. This should get more efficient over time.

JS – you may want to consider hiring a statistician in one of the GS11/12 positions.

HN – with two, one be a statistician type and one a biologist type would be a great idea

CR – yes, and also maybe establish a permanent data analysis/statistician steering committee

CR – is there an integration with the CACO prototype staff? At least for taxonomic expertise.

BM – one thing is that we are planning on them doing most of their own work at CACO. The other concept is merging with prototype, but I don't see that as happening.

BJ – to make this clearer, a Gantt chart would be helpful with the tasks and protocols associated with each person.

CZ – I'm wondering how the expectation matches up with reality – all you can do is try it.

(Discussion re: location and placement of staff)

BJ – could advertise with flexibility of duty station – at CESUs or GATE/FIIS/etc...

We will send out Chapter 3 and Chapter 4 for review

END OF MEETING